


The Journal of the American Association of Zoo Keepers, Inc.

Animal Keepers' Forum



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The American Association of Zoo Keepers, Inc. exists to advance excellence in the animal keeping profession, foster effective communication beneficial to animal care, support deserving conservation projects, and promote the preservation of our natural resources and animal life.

ABOUT THE COVER

This month's cover features Vyvy, a 5-year-old female slender loris (*Loris tardigradus*), sitting in a basket in her exhibit as part of the Animals of the Night building at the Memphis Zoo - the second-largest all-nocturnal exhibit in North American zoos. At the time the photo was taken, Vyvy was living with a 7-year-old male slender loris, Kumar. Both slender lorises are part of the only remaining collection of slender lorises in North American zoos. There are five total slender lorises at the Memphis Zoo, all captive-born, living in three different exhibits.

Slender lorises under human care have displayed high sensitivity to their environments, and can be exceptionally susceptible to environment-related stress. Keepers mitigate this by providing them with multiple hiding and resting spaces, well-planted exhibits (with either live or artificial plants), and a variety of regular enrichment. Even with routine contact, they can remain shy and elusive. Photo by Angie Price.

Articles sent to *Animal Keepers' Forum* will be reviewed by the editorial staff for publication. Articles of a research or technical nature will be submitted to one or more of the zoo professionals who serve as referees for AKF. No commitment is made to the author, but an effort will be made to publish articles as soon as possible. Lengthy articles may be separated into monthly installments at the discretion of the Editor. The Editor reserves the right to edit material without consultation unless approval is requested in writing by the author. Materials submitted will not be returned unless accompanied by a stamped, self-addressed, appropriately-sized envelope. Telephone, fax or e-mail contributions of late-breaking news or last-minute insertions are accepted as space allows. Phone (330) 483-1104; FAX (330) 483-1444; e-mail is shane.good@aazk.org. If you have questions about submission guidelines, please contact the Editor. Submission guidelines are also found at: aazk.org/akf-submission-guidelines/.

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ANIMAL KEEPERS' FORUM

TO CONTACT THE AKF EDITOR:
Shane Good, AKF Editor
P.O. Box 535, Valley City, OH 44280
330-483-1104
Shane.Good@aazk.org

AAZK Administrative Office

American Association of Zoo Keepers
8476 E. Speedway Blvd. Suite 204
Tucson, AZ 85710-1728
520-298-9688 (Phone/Fax)

CHIEF EXECUTIVE/FINANCIAL OFFICER:

Ed Hansen | Ed.Hansen@aazk.org

DIRECTOR of PROFESSIONAL DEVELOPMENT and CONFERENCE MANAGEMENT

Bethany Bingham, Bethany.Bingham@aazk.org

ANIMAL KEEPERS' FORUM - EDITOR

Shane Good, Shane.Good@aazk.org

GRAPHIC DESIGNER

Elizabeth Thibodeaux, Elizabeth.Thibodeaux@aazk.org

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Beth Stark-Posta, Beth Ament-Briggs

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AAZK has 10 different awards and we'd love to be able to acknowledge the achievements of 2019 as we move into 2020.

The calendars have turned over and we have officially reached the year 2020! And what better time to encourage "looking" back on accomplishments and a "vision" of a better future than in the year 20/20.

Every keeper has a year full of accomplishments in which to take pride. Whether it be a breakthrough in behavioral husbandry, an improvement in animal welfare, or an accomplishment in outreach and involvement, the diversity of our work enables a wide variety of different areas to find success. Please consider taking the time to recognize these accomplishments by your peers by nominating them for an AAZK Award. Award nomination period opens January 1 and runs through May 1 so now is the time to start planning for your nominations. Some of the awards require supporting documentation, so starting the process now ensures enough time to get everything together. If you're not sure exactly what has been accomplished around your facility, consider reaching out to others by forming a committee of members in different areas or reaching out to management for their help so that everybody's work has the opportunity for recognition. The year 2020 sees change in Awards too as it will be the first year in which the Janet McCoy Excellence in Public Education Award is open to nominations. AAZK has 10 different awards and we'd love to be able to acknowledge the achievements of 2019 as we move into 2020.

The new year presents new opportunities for improvement and the AAZK Grants can help members reach a wide assortment of goals. Member grants such as the Professional Member Grants for the AAZK National Conference and Continuing Education support attendance at conferences and workshops where networking and learning opportunities can develop a stronger keeper skillset. Research and CPR Grants support members in their endeavors related to research and wildlife projects in partnership with their facilities and conservation partners. The work of Grants expands outside of the AAZK membership as well with the IOC Latin America Travel Grant, BFR Conservation Resource Grant, and TFYM Reforestation Grant.

To learn more about Awards and Grants Committees and their work, visit AAZK.org. I hope everyone had a successful 2019 and wish the membership a 2020 of exciting developments.

Cheers,

Paul
Paul.Brandenburger@AAZK.org

COMING EVENTS

Post upcoming events here!
e-mail shane.good@aazk.org

February 26-29, 2020

**The International Association
of Avian Trainers 28th Annual
INTERNATIONAL CONFERENCE**
Punta Cana, Dominican Republic
For more information go to:
iaate.org/iaate-conference/2020-conference

February 29 - March 5, 2020

**AZA BEST PRACTICES IN ANIMAL
KEEPING COURSE**
Tampa, FL
Hosted by ZooTampa
For more information go to:
aza.org/best-practices-animal-keeping

March 4-7, 2020

Venom Week 2020
Gainesville, FL
Hosted by The North American
Society of Toxicology
For more information go to:
reg.conferences.dce.ufl.edu/VENOM/1566

March 29 - April 3, 2020

**Animal Behavior Management
Alliance (ABMA) Annual
Conference**
Beekse Bergen, the Netherlands
Hosted by Safaripark Beekse
Bergen
For more information go to:
theabma.org/abma-annual-conference/

April 4-9, 2020

AZA Mid-Year Meeting
Palm Springs, CA
Hosted by The Living Desert Zoo
and Gardens.
For more information go to:
aza.org/conferences-meetings

May 4-8, 2020

**Practical Zoo Nutrition
Management**
Front Royal, VA
Hosted by Smithsonian-Mason
School of Conservation
[smconservation.gmu.edu/
programs/graduate-and-professional/practical-zoo-nutrition-management/](http://smconservation.gmu.edu/programs/graduate-and-professional/practical-zoo-nutrition-management/)

June 8-12, 2020

**Level Up: Zoo Animal Behavior
Workshop**
West Palm Beach, FL
Hosted by Palm Beach Zoo and
Conservation Society
For more information go to:
www.palmbeachzoo.org/new-level-up-animal-training-workshop

June 22-26, 2020

**Zoos and Aquariums Committing
to Conservation**
Salt Lake City, UT
Hosted by Utah's Hogle Zoo and
Tracy Aviary
For more information go to:
zaccconference.com/

September 13-17, 2020

AZA Annual Conference
Columbus, OH
Hosted by the Columbus Zoo and
Aquarium
For more information go to:
aza.org/conferences-meetings



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February 9-12, 2021

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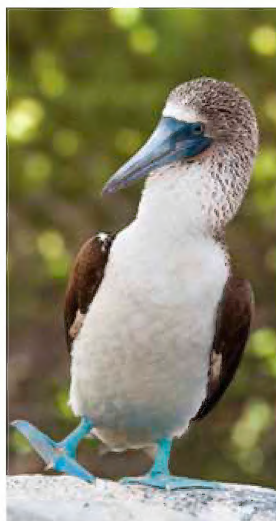
2020 AAZK AWARDS NOMINATIONS OPENED

The American Association of Zoo Keepers (AAZK) Awards Committee is accepting nominations for The AAZK Lifetime Achievement Award, The AAZK Meritorious Service Award, The AAZK Lutz Ruhe Professional of the Year Award, The AAZK Jean M. Hromadka Excellence in Animal Care Award, The AAZK Excellence in Animal Nutrition Award, The AAZK Excellence in Exhibit Renovation Award, The AAZK Janet McCoy Excellence in Public Education Award, The AAZK Nico van Strien Leadership in Conservation Award, and the Lee Houts Advancement in Environmental Enrichment Award, which will be presented at the 2020 AAZK Conference in Los Angeles, CA. The deadline for nominations is May 1st, 2020. Information concerning the qualifications, nomination procedure, selection procedure and an explanation of the awards may be obtained at www.aazk.org, under committees & programs/awards committee.

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Cover photos need to be a minimum 2625 x 3375 pixels. Smaller photos may be submitted for inclusion inside the AKF. Please include a photo caption and the name of the person to be credited for taking the picture.



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A close-up photograph of a polar bear cub nestled inside the open belly of its mother. The cub is looking directly at the camera with dark eyes and a black nose. The mother's thick white fur frames the cub, creating a warm and protective environment. The cub's paws are visible at the bottom of the frame.

Happy New Year!



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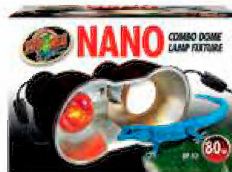
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Activity Levels of Slender Lorises (*Loris tardigradus*) in a Captive Environment

Angela Price
Memphis, TN

Abstract

The behavior of animals in zoos can supplement studies conducted in the wild, as well as contribute to our understanding of animal reactions in zoos. Zoo animals must adapt to different conditions than those found in the wild, and therefore may be influenced by the presence of human guests. In this study, the behavior of slender lorises (*Loris tardigradus*) at the Memphis Zoo was recorded over a period of six weeks. Activity budgets of each animal were notated using scan sampling with one-minute intervals. In addition, two factors were observed for possible influence on slender loris behavior: Both the number of guests present in the exhibit, as well as average decibel levels in the building were recorded, and observations were made at a variety of times throughout the light cycle. Results were examined for correlational relationships among the variables, but no conclusive findings were determined. There does not appear to be a positive or definitive correlation between activity level and guest presence, or activity level and noise levels. There were a number of factors that could have influenced results, however, and further research is needed to make any positive determinations. However, this study overall did not seem to demonstrate that human presence had a negative effect on activity levels of slender lorises in captivity.

Introduction

The study of animals in zoos can provide vital insights when it comes to garnering information about natural behaviors. Many of the behaviors found in zoos mirror those in the wild; yet, by studying behavior in zoos, it is often possible to note issues and make changes in the exhibit space or husbandry practices which might result in improvement of the quality of life for the animals.

Slender lorises (*Loris tardigradus*) are one of the rarest species currently found in captivity, as well as in the wild; they are currently listed as Endangered on the IUCN red list (Fuller et al., 2013; Mittermeier et al., 2006; Nekaris, 2008). They were first exhibited in North America in the Bronx Zoo in 1900, and numbers have varied over the years (Fitch-Snyder & Schulze, 2001). The last two decades in particular have seen a dramatic

decrease in the number of lorises found in accredited zoos in North America; over twenty years ago, it was estimated that there were about 70 animals in captivity (Schulz & Meier, 1995). Currently, there are only seven slender lorises found in accredited zoos in North America (A.J. Saunders, personal communication, October 4, 2014). Five of those are found in the Memphis Zoo, in the Animals of the Night exhibit.

Slender lorises are notoriously sensitive when it comes to a number of factors in their captive environments. They are highly susceptible to stress, which can result in diet and activity disruption, making them more vulnerable to illnesses; in some cases, this has even induced seizures and contributed to death (Ablard, 2006; Fitch-Snyder & Schulze, 2001; Schulz & Meier, 1995). They are nocturnal primates, but reside in a building which operates on a reverse-light cycle, allowing guests to

view them during what would normally be their active times. The quality of space in loriseid exhibits has been shown to have a much greater effect on behavior than amount (Fuller et al., 2013). This study investigates how slender loris activity and stress levels may be affected by noise levels and guest presence at the Memphis Zoo, in an effort to more effectively monitor the stresses they may be facing in their zoo environment. There is no definitive measure of stress among animal behaviorists, but primatologists and those in particular studying prosimians and lorises have made some determinations about what constitutes stress and stressful behaviors in these particular animals, both in the wild and in captivity (Schulz & Meier, 1995). Some stress behaviors have been noted in predator defense postures and reactions (Nekaris et al., 2007).

Methods

This study was conducted at the Memphis Zoo in Memphis, Tennessee, USA, in the Animals of the Night exhibit. There are 22 separate exhibit spaces in this building, as well as 12 off-exhibit holding areas, with 26 different nocturnal animal species present in the building at the time of this publication. The particular exhibits observed in this study were in three different areas of the building. Two of the exhibits were exposed to the public; they were triangular-shaped, with two sides being clear glass and the third being blacked out solid. Each of these exhibits had a male-female pair of lorises. The third observed area was in an area not accessible to the public, and contained a solitary female individual (See Appendix I for photos).

The exhibits meet or exceed recommendations for the species. The light cycle is approximately 12 hours on, 12 hours off, with a reverse-light cycle wherein lights go off at approximately 1030 hours, and come back on at approximately 2230 hours. Only red bulbs are used in the exhibits' night lighting; this is less harsh on nocturnal animals' eyes (Finley, 1959). The minimum recommendations for enclosure height are 2.0-2.5 m; the Memphis Zoo public exhibit heights are 2.3 m and the behind-the-scenes den enclosure is 1.9 m. Minimum recommendations for overall space vary widely, from 1.5 m³ to 16 m³. The public exhibits are 24.8 m³ each, while the den enclosure area is 2.7 m³ (Schulze, 2001). All three enclosures exhibit a high quality use of space: there is dense branching and foliage, use of live plants, numerous nesting boxes and hide spaces, and a variety of feeding stations offered (See Appendix A for photos).

The study was conducted over six weeks; the researcher visited the Memphis Zoo for 1-2 days every week and made observations at each of the three exhibits holding lorises (except during nighttime/after-hours sessions, when going behind-the-scenes was not allowed; in this case, only the public-accessible exhibits were visited). Observations were made in one hour increments at each exhibit, between 0800 hours and 2000 hours. Twenty-seven hours of observation were undertaken for this particular project. Animals with public exhibits were observed from immediately outside the glass, albeit with the researcher attempting to remain out of sight of the lorises; this was not always possible with the angle of the exhibits.

Number of guests that walked by each exhibit was recorded in the public exhibits. In all three exhibits, sound levels were tracked using a BAFX Products (TM) - Decibel Meter / Sound Level Reader. Readings were taken several times a minute, with high and low sound levels recorded. Sound tracking did not begin until after the third observational session.

The study started out with ad-libitum sampling, or recording freehand notes of all individuals and their behaviors in the pre-specified time. This helped to get an idea of the individual behaviors and interactions to expect from each specimen, as well as provided practice in observing practices. Then, the researcher moved on to scan sampling, or instantaneous point sampling. This type of sampling records activity or behavioral states of all animals in a group at predetermined intervals – in this case, at one-minute intervals (Altman, 1984; Clarke, n.d.; Martin & Bateson, 2007). There were therefore 2,501 sample points for this study (549 for each of the four specimens in the public exhibits, and 305 for the behind-the-scenes individual).

The behaviors recorded were Movement, Inactive, Forage/Feed, Allogroom, Self-groom, Breed, and Other. Movement consisted of any type of locomotion, including walking, running, stalking, and climbing. Inactive indicated that an animal was at a standstill; it might be awake, or looking around, but no major bodily movement was observed. Forage/Feed included any behaviors such as digging, sniffing, looking, or sifting in food bowls, capturing live insects, or actually consuming any of their food. Allogroom behaviors occurred when an animal was either grooming or being groomed by a conspecific. Self-groom occurred when an animal groomed itself in any way. Breed included any breeding behaviors such as mounting, thrusting, grasping from behind in a breeding position, and females allowing males to breed. Behaviors in the Other category consisted primarily of urine-washing and scent-marking in any way (urinating on hands and feet, and rubbing those hands and feet on branches or enclosure features, as well as urinating while dragging genitalia on branches or enclosure features).

Results

A Pearson's r correlation was used to look at the data from this study; a Pearson's r coefficient was determined for the concepts of guest presence vs. activity level as well as average decibel level vs. activity level.

Animal	Guest Presence vs. Activity	Decibel Level vs. Activity
Vyvy	0.189	0.860
Kumar	0.519	0.845
Yeu	0.124	0.577
Harold	0.232	0.430

Table 1. Pearson's r correlations. An r of +.70 or higher is considered to be a very strong positive relationship; +.40-+.69 is considered a strong positive relationship; +.20-+.29 is considered a weak positive relationship; and +.01-+.19 is considered a negligible relationship (or no relationship). Vyvy and Kumar show very strong positive relationships with decibel level vs. activity, and Yeu and Kumar show strong positive relationships with decibel level vs. activity and guest presence vs. activity, these numbers can be misleading, with the presence of outliers (which were present in this study).

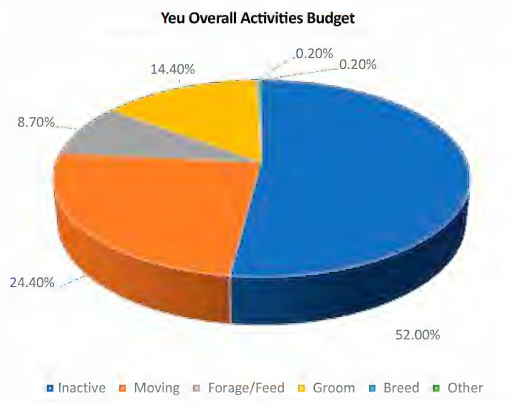
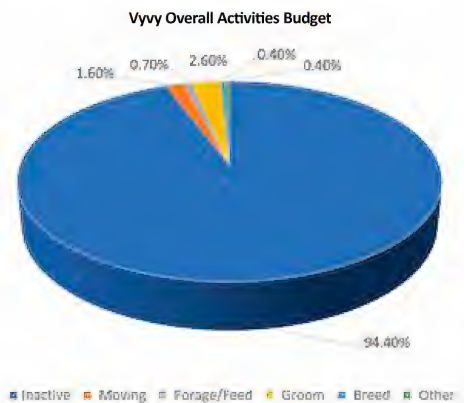
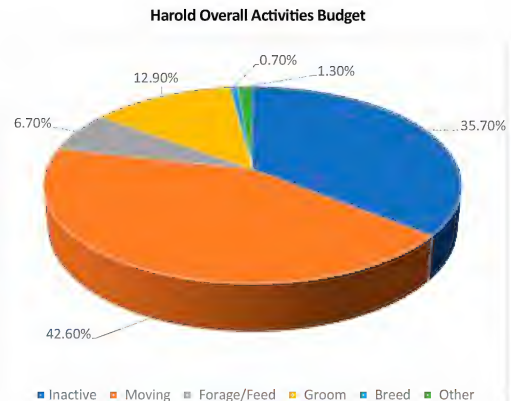
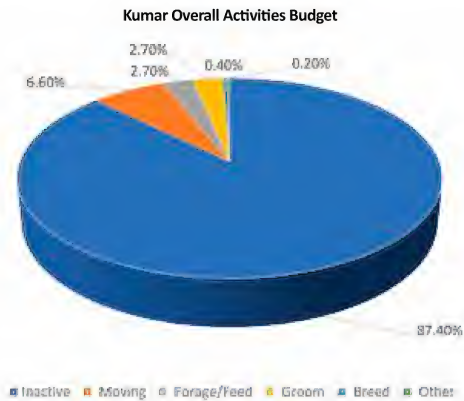


Figure 1. Exhibit #1 Activity Budgets. The male slender loris Kumar had an overall inactive time of 87.4%, while the female Vyvy had an overall inactive time of 94.4%. The remainder of their active times were divided among Movement (6.6% male, 1.6% female); Forage/Feed (2.7% male, 1.6% female), Groom (2.7% male, 2.6% female), Breed (0.4% male, 0.4% female) and Other (0.2% male, 0.4% female).

Figure 2. Exhibit #2 Activity Budgets. The male slender loris Harold had an overall inactive time of 35.7%, while the female Yeu had an overall inactive time of 52.0%. The remainder of their active times were divided among Movement (42.6% male, 24.4% female); Forage/Feed (6.7% male, 8.7% female), Groom (12.9% male, 14.4% female), Breed (0.2% male, 0.2% female), and Other (0.2% male, 0.2% female).

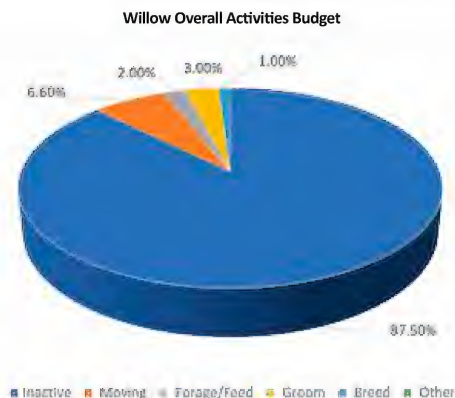


Figure 3. (left) Den Enclosure Activity Budget. The female Willow had an overall inactive time of 87.5%. The remainder of the active times were divided among Movement (6.6%); Forage/Feed (2.0%), Groom (3.0%), and Other (1.0%).

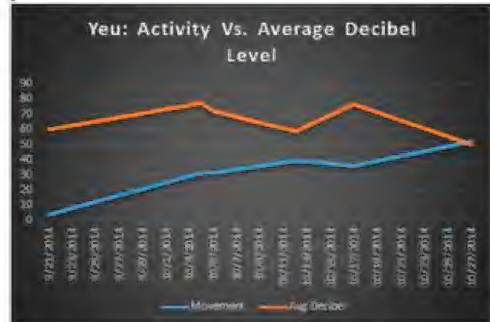
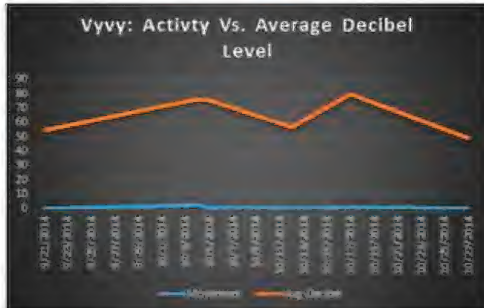
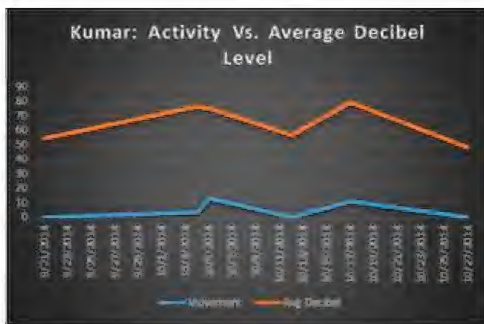


Figure 4. Activity Level versus Average Decibel Level. The male Kumar and female Vyvy in Exhibit #1 displayed lower levels of activity behaviors overall, which were not correlated with the average decibel level found in the building. Activity or Movement in this instance referred to anything other than inactivity (locomotion movement, feeding/forage, grooming, breeding, or other behaviors).

Figure 5. Activity Level versus Average Decibel Level. The male Harold and female Yeu in Exhibit #2 displayed higher levels of activity behaviors overall, which were not correlated with the average decibel level found in the building. Movement in this instance referred to anything other than inactivity (locomotion movement, feeding/forage, grooming, breeding, or other behaviors).

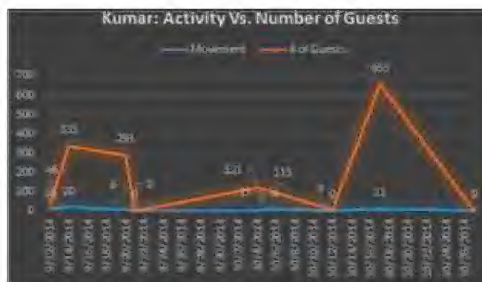


Figure 6. Activity Level versus Number of Guests. The male Kumar and female Vyvy in Exhibit #1 activity levels did not correlate with number of guests present. Activity or Movement in this instance referred to anything other than inactivity (locomotion movement, feeding/forage, grooming, breeding, or other behaviors).



Figure 7. Activity Level versus Number of Guests. The male Harold and female Yeu in Exhibit #2 activity levels did not correlate with number of guests present. Activity or Movement in this instance referred to anything other than inactivity (locomotion movement, feeding/forage, grooming, breeding, or other behaviors). *Data were insufficient for the solitary female Willow to be included in this data set.

Discussion

The results of this study could not produce any definitive conclusions that the number of guests present or noise levels significantly affect the activity levels of slender lorises in this particular captive situation.

There were numerous factors that could affect the behavior of the animals in this study. Activity levels could be attributed to the demeanor of the individual animals; additionally, observer influence played a part. For example, the animal held in the non-public den enclosure (Willow) was far more aware of the presence of the observer. Part of this had to do with the fact that she was not behind glass, and so could definitely hear when the researcher entered or exited the service area. This animal was also known to be the one with the most timid demeanor; she had originally been in a public exhibit, but because of stress related to being on-exhibit, she stopped eating, started losing weight, and had to be moved to an enclosure with no public access (S. Reichling, August 29, 2014). Five individuals were observed during this study. The individuals in the pairs were easily distinguishable, as in both cases, the females were significantly larger than the males. This is a small sample size, but some other researchers have managed to make extrapolations from similar sample sizes in primate studies (Fernandez-Duque, de la Iglesia, & Erkert, 2010; Nekaris, 2001); however, this could be viewed as a limitation of the study.

It took several sessions of observation before she was even a little habituated to the presence of the researcher, enough so to relax into “normal” behaviors. Therefore, it is possible that much of the data collected for this individual is inconclusive at best. Keepers and the researcher were aware of the possibility of this issue beforehand, and discussed how it might be overcome by the installation of a camera which would allow remote observation resulting in less stress and the presentation of more typical behaviors. However, despite this, installation of a camera was not achieved. After taking measurements both inside and outside of the exhibit, it was shown that exhibit glass lowered decibel levels inside the exhibit to about 10 decibels lower than those outside the exhibit.

Animals in exhibit 1 appeared to be somewhat habituated to observer presence. Animals in exhibit 2 appeared to be well-habituated to observer presence, and would actually seek out the observer at times if spotted and come right up to the glass to peer out or follow the observer at times. The individual in the off-exhibit non-public den enclosure was observed from outside the wire of its living area; habituation in this particular case proved extremely difficult. This animal was known to have a particularly timid demeanor, both from its previous institution’s keepers and veterinarian, as well as the fact that it had been placed on exhibit at one time, but had stopped eating and lost weight, concerning the keepers and resulting in the animal being pulled to an off-exhibit area indefinitely (C. Krenn, personal communication, August 28, 2014).

Demeanor appeared to be a significant factor; as each loris or group of lorises exhibited the same trends in behavior. The 1.1 pair “Harold” and “Yeu” were consistently much more active than the 1.1 “Kumar” and “Vyvy”. Additionally, they were more curious when they spotted the observer, sometimes just looking back, but other times actually coming right up against the glass to peer at the observer, whereas when “Kumar” and “Vyvy” spotted the observer, they tended to freeze or hide. While efforts were made to minimize spotting, it was impossible to completely prevent the lorises sighting the researcher at all times. “Harold” and “Yeu” also utilized their exhibit space in a far more expansive manner than was observed in the other 1.2 lorises. They were the only lorises spotted to use every part of their exhibit from top to bottom, going all the way to the potted plant on the substrate (See Appendix A for exhibit/substrate photos). The other 1.1 pair consistently remained solely at the very top part of their exhibit; slender lorises are known to retreat to higher spaces when they are experiencing more stress.

The other main factor in affecting activity levels was actually noted to be more in relation to light than sound. Once the lights went off in an exhibit, there would often be a drastic change in the activity levels from light to dark. This would be an interesting topic to explore further in the future. Bearder, Nekaris, & Curtis (2006) performed a study in the wild that looked specifically at the role of vision in activity of nocturnal primates; carrying out a study with captive nocturnal primates might provide further insights.

A longer-term study with more data collected over a longer period of time would be needed to collect a better picture of the behavioral levels of lorises year-round in these exhibits. If cameras could be installed in the exhibits, it would make observation much easier; it would minimize stress and observer bias, as well as allowing researchers to monitor multiple streams around the clock, which could increase data intake substantially.

The information collected in this study may be used to inform zoo professionals when making future decisions in regards to these particular animals, or animals of this species, or even similar species (for example, at the Memphis Zoo, they do also house pygmy slow lorises currently, and have housed pygmy slow lorises in the past). Even though results are perhaps not wholly scientifically supported or definitively proven, zookeepers are often able to appreciate and utilize anecdotal observations extensively in their daily work.

The results of the study overall were somewhat surprising. At the start, it seemed fairly certain that external factors in the building such as guest presence and noise levels would have significant impacts on the activity levels of the lorises. While it cannot be completely discounted (the story of Willow serves as a pertinent example of how in some cases being on exhibit will in fact affect

an animal adversely), the two pairs in this study did not appear to be significantly affected by these factors. It is possible that being housed in pairs may offset some of these factors and reduce stress considerably. Slender lorises were originally thought to be solitary animals when first housed in zoos, but more and more studies from the wild are showing the exact opposite to be the case, and that they in fact have their own complex social systems and interactions (Bernede, 2008; Nekaris, 2006; Radhakrishna, 2004; Radhakrishna & Singh, 2002). It would definitely be interesting to do more studies on the slender loris in the future, with perhaps more of a social slant.

Acknowledgements

The author would like to thank the Memphis Zoo for its cooperation with this project. Special thanks go to curator Steve Reichling, who provided support with logistics as well as advice on the research process; the Animals of the Night keepers, who provided information on their charges, as well as kind encouragement; and former Team Leader Cathy Krenn, who provided much-needed insight and background information. 🐼

Appendix EXHIBITS

Fig. 1: Exhibit #1 exterior (Exhibit #2 exterior very similar) and interior





Fig. 2: Exhibit #1 features - nest box and artificial hollow log; nesting ball



Fig. 3: Exhibit #2 interior and features (artificial log, branching, faux fur-lined hide triangle)



Fig. 4: Substrate, ficus plant, and bottom of exhibits



Fig. 5: Den exterior



Fig. 6: Den features - hanging platform, nest box, hammock, branching, faux fur hide

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Appendix ANIMAL



Figure 7: 1.0 slender loris Kumar (Exhibit #1) and 0.1 Willow (den enclosure)



Figure 8: (left) 0.1 slender loris Vyvy (Exhibit #1) and (above) 0.1 Yeu (Exhibit #2)

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Is the Future of Zoos Left to the Birds and the Bees?

A Closer Look at Captive Breeding Programs and the Future of Zoo Conservation

Kelly Boghossian
Animal Supervisor
Central Park Zoo
Wildlife Conservation Society
New York, NY

Abstract

The role of modern zoological facilities and their current contributions to conservation and species preservation is examined. This review focuses on categories including conservation efforts, education, and captive breeding programs. The effectiveness and implications for zoological facilities' captive breeding programs on species preservation and diversity are discussed. After evaluating the existing literature, it was concluded that while captive breeding programs can be effective means to facilitate and maintain species diversity, not enough resources are currently dedicated to making a lasting impact on a number of species. The examination of how long-term impact those educational and conservation contribution additions play in visitor behavior are reflected upon, as well as what the future may hold for these facilities.

Scaly-sided merganser eggs.
Photo by Judith Wolfe © WCS



Introduction

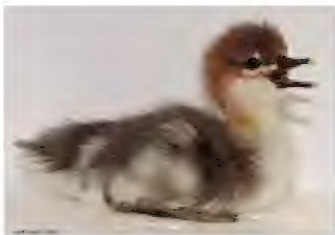
The relevance of zoos and aquariums has recently come under scrutiny due to the increasing pressures of both animal welfare groups and public opinion. In turn, some major organizations have been forced to alter their focus away from entertainment and more towards education through natural encounters (Allen, 2016). For example Sea World, which contributes to the rescue and rehabilitation of wildlife, has announced they are permanently ceasing participation in captive orca breeding (Allen, 2016). More recently, the Vancouver Aquarium has been subject to a new cetacean ban passed by their local governing officials that could affect future rescue and research efforts (Kane, 2017). It would appear it is no longer adequate that zoos provide some form of conservation education along with entertainment in order to maintain airs of legitimacy, now they need to prove their contribution to conservation or risk losing public support. A three-year study of 12 Association of Zoos and Aquariums (AZA) accredited institutions found that approximately half of all attendees believe zoos and aquariums play a significant role in conservation education and that a majority of those visiting the facility felt their trip helped connect them more fully with nature (Falk et al., 2007).

With American zoo visitorship averaging more than 143 million people annually, a potential loss in attendance caused

by swaying public opinion could have a negative impact on the volume of conservation work accredited facilities can achieve (Falk et al., 2007). A majority of AZA facilities participate in captive breeding programs in order to prevent harvesting of animals from the wild, to have access to those animals to educate the public, and in some cases to preserve endangered species by bolstering population numbers for potential release (Conde et al., 2013) among other reasons. The efficacy of these programs is under much dispute over their total impact on preserving biodiversity (Jensen, 2014). This article aims to evaluate the ability of zoos to provide lasting conservation contributions, the efficacy of their captive breeding programs, and the future and the lasting role of zoos and aquariums in aiding species survival.

Conservation

Often introduced to the public in an informal education setting, the idea of zoos and aquariums contributing significantly to species conservation is still a relatively new idea. Evolving from the earliest animal menagerie collections of the wealthy elite, the idea of a zoo funding conservation research has only come about in the last few decades (Falk et al., 2007). While some animal rights advocates criticize the existence of zoos and the need for animals to remain in captivity (Allen, 2016), others believe in the conservation potential that is unique to



Scaly-sided merganser.
Photo by Judith Wolfe © WCS

captive breeding and informal education facilities (Fa, Gusset, Flesness, & Conde, 2014). Zoos are unique environments which expose visitors to animals and habitats that may never be seen in the wild. This experience gives the zoo a prime setting to discuss conservation, as well as generate income to support outside conservation initiatives beyond zoo grounds. To date, AZA facilities have contributed over \$220 million dollars to conservation efforts and that number continues to trend upward (Associations of Zoos and Aquariums, 2018). They have funded and participated in a number of research projects to better comprehend best practices in animal care and welfare as well as applied conservation strategies based on species. However, many zoos do not plan their collection solely on creating the greatest conservation impact; they often select more charismatic animals for public appeal over less attractive species, a criticism they have long faced, and a practice continued today (Skibins, Powell, & Hallo, 2013). Many critically endangered, less “crowd-pleasing” animals, like amphibians, are often overlooked when zoos develop their collection plans and by extension, captive breeding programs. As a result, over seventy-five percent of amphibian collections from 800 international zoos and aquariums contained non-threatened species, and zoos housed less than six percent of endangered amphibians (Dawson, Patel, Griffiths & Young, 2015).

Zoos are still businesses at the end of the day, and many need charismatic animals to maintain public interest and investment. Many zoos will feature large mammals on exhibit as ambassador species for conservation but the actual support for that claim has been found lacking. There has

been no concrete connection between viewing large, charismatic animals and a change in visitor behaviors in regards to the environment (Skibins et al., 2013). Interestingly, the most financially impactful zoological parks for conservation were often located near major cities and had large collections and this feat was often tied to the ability to generate revenue with a large population base (Fabregas, Guillen-Salazar, & Garcés-Narro, 2010). Since opening their additional fee exhibit “Congo Gorilla Forest” in 1999, the Bronx Zoo had raised over ten million dollars in ten years for conservation aid (Conway, 2011). Conversely, many smaller facilities struggle to maintain appropriate conservation participation due to lack of funding, citing location as a major flaw in park design (Fabregas et al., 2010).

Zoos that do participate in conservation efforts by including endangered animal exhibits can fall prey to criticism as well, considering they only hold about 15% of the presently endangered population based on assessments from International Species Information System (ISIS) and the International Union for Conservation of Nature (IUCN) publication the Red List of Threatened Species (Conde, Flesness, Cotchero, Jones, & Scheuerlein, 2011). These facilities have aided in conserving 16 of 68 endangered species over the last 20 years either through acquiring funding, or at least 13 of these resulted from participating in captive breeding plans to maintain species diversity (Fa et al., 2014). What is often overlooked is the number of animals within a taxonomic group that are housed within those facilities and the positive impact captive breeding programs have on biodiversity (Keulartz, 2015).

Captive Breeding

Although many zoological facilities exhibit animals that are not threatened or endangered, many participate in captive breeding programs in order to preserve species biodiversity (Conway, 2011). Captive breeding programs do not have to meet an “all or nothing” requirement in order to be deemed effective for conservation purposes. There are supportive data that shows captive breeding programs not only work, but when paired with other conservation methods prove to be the

most effective means for staving off species extinction (Conway, 2011).

However, modern zoo captive breeding programs are limited by space restrictions. The combined land for American zoos fits inside the 212.7 square kilometers of Brooklyn, NY. If half of those areas were dedicated to captive breeding, they would still fail to fit less than a third of all endangered invertebrates (Keulartz, 2015). This argument is highlighted in the Keulartz article “Captivity for Conservation? Zoos at a Crossroads” (2015) where the metrics of average zoo land space was measured against needs of endangered species for breeding purposes. Zoos are making a positive impact: 13 out of 68 threatened or endangered species that had listed their status as improved on the IUCN Red List have been resolved thanks to captive breeding programs (Conde et al., 2013). The Kihansi spray toad of Tanzania, for example, went extinct in the wild in 2004, but due to the combined efforts of the Bronx and Toledo Zoos, sustainable assurance populations now exist in captivity (Conway, 2011) and have been re-established in the wild through the release of zoo-born offspring. Despite the successes of captive breeding programs, there are a surprising number of opponents to these programs that are not limited to animal welfare advocacy groups. These critics believe that even ample time and space for captive breeding in zoos would not make a perceivable difference (Keulartz, 2015). Programs to introduce captive-reared animals into the wild, however,

Scaly-sided merganser nest box.
Photo by Judith Wolfe © WCS





Scaly-sided merganser breeding pair.
Photo by Judith Wolfe © WCS

have been successful in a number of cases. Black-footed ferret (*Mustela nigripes*), California condor (*Gymnogyps californianus*), freshwater mussels (*Unionidae*), golden lion tamarins (*Leontopithecus rosalia*), Oregon spotted frog (*Rana pretiosa*), Palila Hawaiian songbird (*Loxioides bailleui*), and red wolf (*Canis rufus*) are just a few species that were listed as critically endangered and brought back from the brink of extinction with assistance from AZA-accredited zoos (Association of Zoos and Aquariums, 2017).

In a multinational study completed in 2008, 6,000 visitors were surveyed about their knowledge of biodiversity and any action they might take to preserve biodiversity (Moss, Jensen, & Gusset, 2014). The study found that after attending the zoo or aquarium, 6% of attendees felt better informed about issues on biodiversity and 9% felt better prepared with an action plan to aid biodiversity (Moss et al., 2014). The study does not mention whether these visitors intend to partake in the action plan, or how they intend to apply their knowledge to assist in preserving biodiversity. The application of an action plan and the information needed to execute that plan might be better aided in improved communication between zoos and their visitors.

Conclusion

Although most modern-day zoos participate in captive breeding programs in some form, their contribution to these programs alone is not enough to help stave off the loss of species biodiversity due to extinction. Many species are not candidates for captive breeding programs due to their documented inability to thrive outside

of zoo settings, cost effectiveness, or habitat loss. There needs to be a multifaceted approach to both program participation and visitor education if zoos wish to continue saving species. Zoos need to remain focused on targeted conservation programs that would benefit from captive breeding for further study, genetic preservation and potential re-release where applicable. In order to be viewed in a more positive light by the general public and animal welfare groups alike, zoos need to dedicate more time and effort into captive breeding programs of endangered species, as well as communicate these efforts to the public both on and off zoo grounds. Smaller zoos would benefit from reviewing their collection plans to focus on fewer, smaller species that could benefit from more intensive efforts if they hope to continue their impact on maintaining sustainable biodiversity for program participants. If progressive facilities continue to focus their conservation and captive breeding program efforts on a greater number of endangered species while continuing to engage and educate the public, the future of zoos looks bright. 🐾

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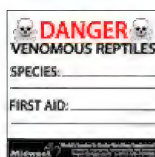
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How to Train Your Dragon... I mean pygmy hippo

Alexis Dufilho Williamson – Keeper II
Louisville Zoo

The Louisville Zoo, Louisville, KY, has been participating in the pygmy hippopotamus (*Choeropsis liberiensis*) Species Survival Plan® (SSP) since 2002 when the zoo opened a new hippo exhibit as part of the Gorilla Forest area. Hippo Falls is an outdoor exhibit that provides a dry upland area and a stream with a series of waterfalls ending in a large pool approximately five feet deep. There are two exhibit viewing windows available for Zoo guests; one is located at an upper viewing area, and the other is located at a lower viewing shelter offering underwater views into the pool.

The pygmy hippopotamus is a primarily nocturnal creature that has been in a

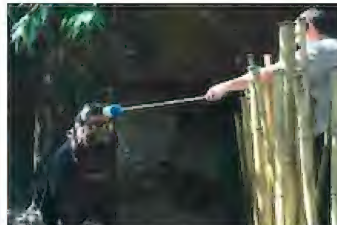
managed population since the early 20th century. The first pygmy hippo in the European population arrived in 1873, but only lived about a month. In 1912, several pygmy hippos were brought into managed populations in both Europe and the US (section 11 of the husbandry manual). Pygmy hippos are generally deemed aggressive, according to section 3.3.2 of the husbandry manual. While caution should be taken when working with any animal, establishing a training program can have many positive results: better husbandry, better bond between the animal and the keeper, and improved animal welfare, just to name a few. The Louisville Zoo has such a program and is playing a part in the behavior and

welfare of the next generation of pygmy hippos.

According to section 3.3.2 of the Husbandry Guidelines for the Pygmy Hippopotamus, very little training, other than normal management such as shifting, is done with pygmy hippos. Many zoos do not allow physical contact with pygmy hippos and consider them to be aggressive animals, so interactions with keepers are generally limited to cleaning and feeding. Over time, as animals have transferred from one facility to another, information has been shared verbally about the aggressive nature of pygmy hippos. More is known today about the behavior of these



Open mouth behavior with baby pygmy hippo.



On Exhibit Training with pygmy hippo.



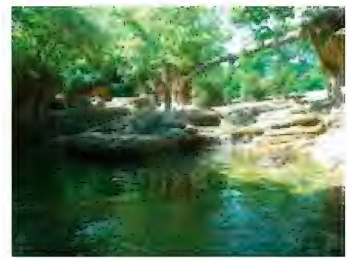
Protected Contact Training with pygmy hippo.



Hippo Falls Exhibit



Upper Exhibit



Lower Exhibit

animals and how to safely work around a potentially dangerous animal. Gone is the day when keepers are expected to enter enclosures with only tools to protect them in order to hurriedly clean and feed these animals. Every animal is an individual and should be treated as such when designing a training program. Safety of the animal and of the participants involved is the most important thing to keep in mind.

The Zoo is currently home to 1.1 pygmy hippos, cared for in a protected contact scenario. Our program strives to continually push forward the care and welfare of the collection. Staff has taken part in many research projects to better the knowledge of the species. Fecal collection is an easy, non-invasive way to participate in such studies. The operant conditioning and positive reinforcement training program aides in overall health of the collection and enhances the husbandry and enrichment aspects of the pygmy hippos in our care. Some of the behaviors currently used in the program are mouth presentation, targeting, back up, lie down, come here and tactile behaviors that allow topical medications to be administered, hand-injections, ultrasound and scale stationing. Mouth presentation allows for regular tusk checks and gives Veterinary staff the ability to obtain photographs to monitor tusk growth. Hand-injection makes giving vaccines possible and allows participation in a larger range of studies, such as testing for cortisol levels using ACTH for a baseline. Hand-injection also is a precursor to aide in blood collection. Come here, back up and target all assist in basic shifting but can also be built upon for more complex behaviors. Scale stationing is necessary to keep accurate weight records. The program

is expanding to include blood collection and ultrasound. The training program leads to hippos that are easier to work around, allowing for hand-feeding and physical manipulation such as touching certain body parts in a protected contact scenario.

The Zoo's daily husbandry routine includes several keeper-hippo interactions. Cleaning of the exhibit and of the holding areas is done in the morning. There is a morning feeding where each hippo receives half of their daily diet. This is usually given during shifting and may be all at once or broken into several smaller feedings. When hippos are on exhibit, there is a noon day training session and keeper talk for

The Zoo's behavior management plan for the hippos was taken to a new level in August of 2014.

the public. The training session allows Zoo guests to see a hippo out of the water and up close. After the training session has ended the keeper steps out and speaks with the guests about why we train our animals, and shares information about pygmy hippos and conservation efforts. In the afternoon, just before keeper staff leaves for the day, the hippos receive the second half of their daily diet. On any given day, staff may include additional interactions to facilitate training new behaviors. Depending on the behavior being trained, one or more staff members may be present.

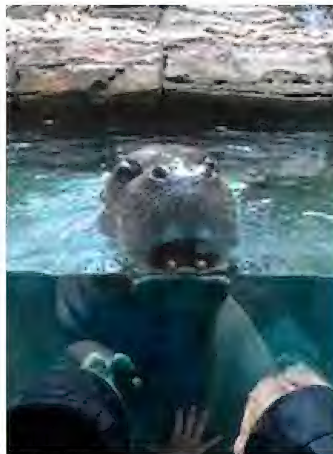
Occasionally behind-the-scene tours are brought to the pygmy hippo exhibit. These tours give keeper staff more of a one on one opportunity to share their passion for these animals. Guests are able to ask questions and get an up close and personal view of the hippos. With staff guidance, the guests can even toss peanuts into a hippo's open mouth, from a safe distance of course. Louisville Zoo's mission is to better the bond between the people and our planet and these personal experiences are just one way to help guests connect with the amazing world around them.

The Zoo's behavior management plan for the hippos was taken to a new level in August of 2014. A male calf was born and, due to the relationship staff had with the mother, the calf was easily separated for its neonatal exam. Mom and calf could see each other the entire time and neither became anxious during the procedure. After seeing how well this worked we decided to continue to separate them daily for short periods of time. During separations, they were always able to see each other and if at any time they began to become anxious, such as vocalizing towards each other, they would be reunited. Early in these separation sessions, keepers would enter the stall with the calf and began to desensitize him to being touched. He could then be placed on a scale for weight monitoring and eventually he was trained to step onto the scale on his own.

As his tusks began to grow, veterinary staff were able to routinely photograph the tusks and then monitor their development. By the time he was a year old, I was able to hand vaccinate him. When he was nine-months-old, he had



Mouth Behavior



On Exhibit



Tactile

significant tusk growth, and weighed close to 100 pounds, so for the safety of animal and staff, it was decided to no longer enter his enclosure with him. Staff continued his training in a protected contact setting.

When he left Louisville at 22 months of age, he was able to come when called, open mouth on cue and was injection, scale and crate trained. When staff from the receiving zoo arrived to transport him, they were amazed that he, as well as both of his parents, were so easily touched and hand-fed. With no previous history with pygmy hippos, all they knew was what they had read in the husbandry manual and what they had heard from other professionals about how aggressive pygmy hippos could be.

When staff arrived from the receiving zoo to transport him, the crate did not fit into the adjacent stall like we had

trained him. The crate was set up in the service area, attached to a transfer chute. He began to enter the crate, but became nervous in this new location and backed out. With some enticement, he finally shifted into the crate and was loaded onto the transport truck. I followed the transport truck to the new facility and upon stopping for refueling, was able to offer him some favored treats. Transportation went smoothly and he readily exited the crate into a quarantine area. He immediately began to explore this new space and was eating by the end of the day. I returned the next day to check on him and share behavioral information with the staff. They were delighted that he was so easy going and they could hand-feed him with no problems. He quickly became a star amongst the staff and visitors enjoy seeing him on exhibit. Staff have reported that he continues to shift well and trains readily. On his third birthday, after not seeing him for a year, I made a

visit to his new home. He has settled in well and the staff loves him. He came over to me in holding and allowed me to give him chin scratches, one of his favorite enrichments, and hand him some treat items. He easily shifted out on exhibit when asked.

The Gorilla Forest keepers do daily keeper talks with the public to share information about pygmy hippos in general, as well as conservation efforts. Some items commonly discussed are habitat loss due to palm oil and human encroachment, the bushmeat trade and population loss due to war and disease. We are proud of our training and husbandry program and are continually looking for ways to take it to the next level. Should another calf be born, a similar program will be implemented to familiarize it with training early. The adults consistently move forward with training goals, and staff are always

The Gorilla Forest keepers do daily keeper talks with the public to share information about pygmy hippos in general, as well as conservation efforts.



Scale Training

looking ahead to the next project. One of the future goals will be expanding the training and interpretation while on exhibit. The ability to demonstrate these behaviors to our guests in a controlled setting and interpret how they aide in better husbandry and welfare for the pygmy hippos will allow staff to increase the awareness of these ambassadors for their diminishing wild counterparts. 🦛

NOTE: This paper was presented at the 2018 AAZK Conference and published in the proceedings:

Williamson, A.D. 2018. How to Train Your Dragon...I mean pygmy hippo. In Proceedings of the 45th Annual National Conference of the American Association of Zoo Keepers, Inc., Denver, Colorado, October 4 – 8, 2018, pp: 232 – 315.

Training Tales Editor Comments:

Kim Kezer (Animal Training Advisor at Zoo New England, Boston, MA)

In my experience with pygmy hippos, I find them to be intelligent, and eager to participate in training sessions in a protected contact setting. They are one of my favorite animals at our zoo. I will try to keep an unbiased opinion when commenting about this article. ☺ With all animals in a zoological setting, keepers must always exercise proper safety, no matter if it is protected contact or free contact training. Yes, a pygmy hippo has the potential to be aggressive in certain circumstances, but through small approximations over time they can be very gentle. With large and very sharp tusks, we maintain a healthy respect for the animal when hand-feeding or touching the animal.



At Zoo New England we have an Animal Training Safety Pyramid posted at training areas throughout the zoo. At the top of the pyramid is “Focus on Session”. Trainers must not be distracted by outside conversations, phone calls, radio calls, or by people observing. The focus must be on the animal that is willingly participating in the training session. Accidental injuries happen when your attention is taken away. At the bottom left of our pyramid is “Purposeful Keeper Contact”. Our trainers should not be touching an animal unless it has a purpose. When contact is made initially with an animal, training props such as touch dowels, brushes, tongue depressors, and capped needles are used instead of a trainers’ hand or finger. Hands are only used for touching when appropriate, purposeful, and when the animal is ready. Fingers, hands, and arms are not to be reached into the animals’ enclosure. The bottom right of our pyramid says, “Prevent Animal Contact”. Trainers must position themselves and anyone else, either participating in or observing the training session, at an appropriate distance from the protected contact barrier to prevent the animal from reaching out to make contact with claws, hand, mouth, or foot. Trainers need to always be aware of their movements when close to the animal; for example, when bending their head towards the mesh or leaning in too close.

I applaud Louisville Zoo for their efforts in starting a training program with the young calf. Besides, who could resist!?!? Having the ability to shift the calf without the mom being overly stressed is a testament to the foundation of your training program. This tells me that you have built enough trust with the mother for her to feel comfortable shifting away from the calf. In this case, giving them visual access to each other seems to give them comfort. This is not always possible in many species when giving baby animals’ their first exams. If possible, make handling and separation part of the routine at an early age, so this will hopefully make for a compliant and resilient animal to train in the future. Excellent training and I look forward to hearing more about your ability and approach taken for blood collection. Thank you for sharing your Training Tale!

IOC Grant Winners 2019

AAZK's International Outreach Committee (IOC) focuses on increasing resources, training opportunities, and continuing education to Latin American animal care professionals. The IOC achieves these goals through an array of different projects, including Capacity Building Programs held at zoos in Latin America and providing AAZK memberships for Latin American keepers through an AAZK Chapter sponsorship program.

The IOC manages a grant program available to Latin American animal care professionals. This travel grant program provides the recipients with \$2,000 to use towards travel expenses and registration costs to attend the AAZK National Conference. In 2019, two keepers from Latin American zoos, Rafael Sánchez and Mario Soto, received a portion of the IOC Travel Grant and attended the AAZK Conference in Indianapolis. Rafael and Mario took a moment to share their conference experiences with the AAZK membership, detailed below.

Rafael Sánchez

"I am the Animal Welfare Officer at Dolphin Adventure (in Puerto Vallarta, Mexico). During the conference I attended the Advanced Marine Mammal Husbandry course, which contained updated, interesting and useful information that can be applied in my work environment. These types of events allow you to meet up with old friends but also meet new people that work with similar species and expand your vision to what is working with other types of animals, which makes it a very enriching experience.

The day at the zoo was amazing, I saw many different animals and met people from other departments including the commissary, hospital, etc. The event was well organized, and all the organizers were always attentive to help and guide others during the whole conference. Applying for the grant is definitely something that others should do, without a doubt. It is a huge support provided by AAZK for keepers in Latin America and through this type of collaboration it is possible to strengthen ties between different institutions within and far from our country."

Rafael also gave a presentation titled "Storm the Gates! Using Off-Exhibit Training Strategies to Expand Habitat Experiences" about how his facility has trained macaws, sea lions, and squirrel monkeys for off-exhibit interactions to allow them to explore other areas in the park. His presentation was very well received!

Mario Soto

"I work at the Conservation Center Zoofari in Morelos, Mexico. I am the supervisor of Animal Welfare and I am in charge of the area of neonatal assisted care. Recently I attended the AAZK conference in Indianapolis. I was able to attend thanks to the scholarship provided by the IOC which I think is excellent since it gives us the opportunity to attend these kinds of wonderful conferences. The process to apply for the grant is very simple and easy to complete, you just need a little luck to get it.

I really enjoyed the conference. I shared and met with many people who, like me, love and enjoy their work as an animal keeper, which is the case of Janet McCoy, who has been working for more than 30 years. I had the opportunity to talk with her and share great experiences that



Photo 1: Rafael and Mario with keepers from Africam Safari in Puebla, Mexico, and members of the IOC.
Foto 1: Rafael y Mario con cuidadores de Africam Safari en Puebla, Mexico, y miembros de IOC.



Photo 2: Mario Soto with Janet McCoy.
Foto 2: Mario Soto con Janet McCoy.

she has had, she has a huge amount of knowledge and passion.

In general, I think that attending this type of conference is a great learning opportunity. I arrived at my institution excited to tell my colleagues everything we can do and achieve if we continue to work for animal welfare and conservation. One thing in particular that I found very interesting is the amount of conservation programs that AAZK carries out and how they raise funds to support animal conservation. I am very grateful to the IOC for the opportunity they gave us and all the support I received during my stay in Indianapolis. I am grateful to Yvette Kemp and Kathryn Juliano for their support and for everyone that is interested in supporting this program for allowing more keepers from different countries to share this wonderful experience."

Conclusion

The IOC Travel Grant will be offered for the 2020 National Conference hosted by the Los Angeles AAZK Chapter in Los Angeles, California, August 30-September 03, 2020. The application is currently available on the AAZK website and is due on February 1, 2020. Latin American animal care professionals are strongly encouraged to apply. AAZK Chapters support the IOC Grant with their re-charter fees, but Chapters can get more involved by participating in the IOC Keeper Sponsorship Program. Participating AAZK Chapters sponsor an



Photo 3: Rafael Sánchez presents a talk at the conference.
Foto 3: Rafael Sánchez hizo una presentación en el congreso.



Photo 4: Mario Soto with members of the IOC and new friends.
Foto 4: Mario Soto con miembros de IOC y amigos nuevos.

AAZK membership for a Latin American keeper; providing them access to online materials and the *Animal Keepers' Forum*. If your Chapter is interested in participating in the program, please e-mail ioc@aazk.org for more information.

The IOC is always looking for keepers, especially Spanish speakers, to help

reach our vision to become a source of information for international animal care providers. If you are interested in participating as a presenter during an IOC Capacity Building Program, helping to translate materials from English to Spanish, or serving the committee in other ways, please contact the IOC at ioc@aazk.org.

IOC Grant Winners 2019 (Spanish)

El Comité de Vinculación Internacional (IOC) de AAZK se enfoca en aumentar los recursos, oportunidades de entrenamiento, y educación en instalaciones zoológicas de América Latina. IOC logra este objetivo a través de múltiples proyectos, incluyendo Programas de Capacitación en parques zoológicos en América Latina y proporcionando membresías de AAZK para cuidadores de América Latina a través de un programa de patrocinio de enlaces de AAZK. IOC también tiene una beca disponible que ayuda a cuidadores de América Latina para que puedan asistir al congreso nacional de AAZK. La beca proporciona \$2,000 para cubrir gastos del viaje y registro. En 2019, dos cuidadores de zoológicos de América Latina, Rafael Sánchez y Mario Soto, recibieron una porción de la beca de IOC y asistieron al congreso de AAZK en Indianápolis. Ambos proporcionaron comentarios sobre sus experiencias.

Rafael Sánchez

"Soy el Animal Welfare Officer de Dolphin Adventure. Durante el congreso asistí al curso de Advanced Marine Mammal Husbandry, el cual contenía información actualizada, interesante y muy bien aterrizada para su aplicación en nuestro entorno laboral. Este tipo de eventos de permite reencontrarte con viejos amigos pero además conocer gente nueva que trabaja con especies similares a las tuyas y abre tu visión sobre lo que es el trabajo con otro tipo de animales, por lo que es una experiencia muy enriquecedora. El día en el zoológico fue increíble, entrar a tantas áreas distintas y conocer a gente de otros departamentos como el almacén de alimento, el hospital, etc. La organización del evento fue muy buena y todos los organizadores siempre estuvieron atentos a ayudar y guiarte durante todo el congreso.

Aplicar para la beca definitivamente es algo que debe hacerse sin lugar a dudas. Es un apoyo enorme por parte de la AAZK para los cuidadores de Latinoamérica y a través de este tipo de colaboración es posible estrechar lazos entre diferentes instituciones dentro y fuera de nuestro país."

Rafael hizo una presentación titulada "Storm the Gates! Using Off-Exhibit Training Strategies to Expand Habitat Experiences" sobre como en su instalación han entrenado guacamayas, leones marinos, y monos ardillas para interacciones afuera de sus exhibiciones permitiéndoles explorar otras áreas del parque. ¡Su presentación fue bien recibida!

Mario Soto


"Hola mi nombre es Mario Soto, trabajo en el Centro de Conservación Zoológico en Morelos México, yo soy jefe de Bienestar Animal y me encargo del área de crianza artificial, recientemente asistí al congreso de la AAZK en Indianápolis, pude asistir gracias a la beca que proporciona la IOC la cual me

parece excelente, ya que nos brinda la oportunidad de poder asistir a este tipo de congresos maravillosos, el proceso de aplicación de la beca es muy sencillo y fácil de llenar solo se necesita un poco de suerte y poder obtenerla. Realmente disfruté mucho el congreso, compartí y conocí a muchas personas, que, igual que yo aman y disfrutan su trabajo de cuidador animal, tal es el caso de Janet McCoy la cual lleva más de 30 años trabajando, tuve la oportunidad de platicar de ella y compartir grandes experiencias que ella ha tenido, es muy amplio su conocimiento y su pasión.

En general creo que asistir a este tipo de congresos es una gran oportunidad de aprendizaje, he llegado a mi institución emocionado a contar a mis compañeros todo lo que podemos hacer y lograr si seguimos trabajando por el bienestar de los animales y la conservación, algo que en lo particular se me hizo muy interesante es la cantidad de programas de conservación que la AAZK lleva a cabo y como es que recaudan fondos para poder apoyar la conservación animal.

Agradezco mucho al comité de vinculación internacional por la oportunidad que nos brindan y todo el apoyo que obtuve durante mi estancia en Indianápolis, Agradezco mucho a Yvette Kemp y a Kathryn Juliano, por sus atenciones y a todas las personas que se interesan por hacer esto, por hacer que más cuidadores de varios países compartamos esta maravillosa experiencia."

Conclusión

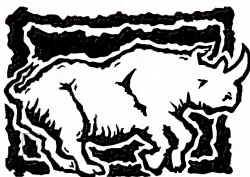
La beca de IOC se ofrecerá nuevamente para el congreso de AAZK en 2020. La solicitud está disponible en línea en el sitio web de AAZK y la fecha límite es 1 de febrero 2020. Recomendamos mucho que cuidadores de América Latina apliquen. Enlaces de AAZK apoyan la beca de IOC con la renovación de su membresía de AAZK, pero enlaces pueden involucrarse aún más participando en el Programa de Patrocinio de IOC. Los enlaces participantes patrocinan a una membresía de un cuidador de América Latina, que les proporciona con recursos en líneas y el AKF. Si tu enlace está interesado en el Programa de Patrocinio, por favor envía un correo electrónico a ioc@aazk.org para más información. IOC siempre está buscando cuidadores, especialmente aquellos que hablen inglés y español, para ayudarnos a lograr nuestra visión de ser una fuente de información para cuidadores internacionales. Si estas interesado en participar como un ponente durante un Programa de Capacitación de IOC, en ayudarnos a traducir materiales de Inglés a español, o para ayudar al comité de otra manera, por favor envía un correo al IOC@ioc@aazk.org. 

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